

# STRATEGIC PLAN FOR ASTHMA CONTROL IN TEXAS, 2021-2024



**TEXAS**  
Health and Human  
Services

Texas Department of State  
Health Services



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## Executive Summary

More than two million adults and children in Texas have asthma. In 2018, uncontrolled asthma among Texans contributed to more than 115,000 emergency department visits and 12,200 hospitalizations. More than \$1.1 billion was charged to public and private payers for these encounters.

The “Strategic Plan for Asthma Control in Texas, 2021-2024,” (Plan) provides a blueprint for a statewide coordinated response to this public health challenge with six priority areas:

1. Expanding access to and delivery of asthma self-management education (AS-ME)
2. Reducing use of tobacco products and exposure to secondhand smoke
3. Expanding access to and delivery of home visits for asthma trigger reduction and AS-ME
4. Strengthening systems to support guidelines-based medical care
5. Providing clinical, public health, and community linkages and coordination of care across settings
6. Developing environmental policies or best practices to reduce asthma triggers from indoor, outdoor, and occupational sources

The Texas Asthma Control Program (TACP) solicited feedback on the Plan’s design from members of the Texas Asthma Control Collaborative, which includes representation from multiple sectors across the state, such as local health departments, health systems, health professionals, payers, academia, schools, and nonprofits with a shared interest in the health and well-being of Texans. The aim was to produce a framework of ambitious yet practical strategies that intervene in all areas of a person’s life – individual, family, community, and environmental levels – with a focus on interventions that are achievable by and sustainable beyond August 31, 2024.

The Plan is a living, dynamic document that can be refined as new evidence and best practices become available. The intended users of the Plan include, but are not limited to, state and local public health agencies, policy makers, health systems, physicians and other healthcare team members, payers, school administrators and nurses, academia, and nonprofit partners. The TACP will continue to play a lead role in promoting and carrying out the strategic plan, providing implementation guidance to partners, and convening strategic collaborations between partners to advance asthma control in Texas.

## Introduction

More than two million adults and children in Texas are living with asthma.<sup>1,2</sup> It is the most common chronic condition among children and the leading cause of absenteeism in schools.<sup>3</sup> Asthma was responsible for more than 115,000 emergency department visits and 12,200 hospitalizations across Texas in 2018. More than \$1.1 billion was charged to public and private payers for these encounters.

To address the physical and financial burden of asthma, the Texas Department of State Health Services (DSHS) reestablished the Texas Asthma Control Program (TACP) in September 2019 with support from the Centers for Disease Control and Prevention (CDC). The mission of the TACP is to reduce emergency department visits and hospitalizations due to uncontrolled asthma. The TACP contributes to the CDC's national objective, Controlling Childhood Asthma and Reducing Emergencies (CCARE), to prevent 500,000 pediatric emergency department visits and hospitalizations due to asthma by August 31, 2024.

The program's core functions are to:

- Collect, analyze, and monitor data to determine how many people are affected by asthma;
- Educate the public on things they can do on their own to keep their asthma under control, such as taking medications properly and avoiding asthma triggers;
- Educate the public on ways to make a home or worksite asthma-friendly;
- Work with medical providers to ensure all people living with asthma receive the national standards of care;
- Bridge medical and social services for wrap-around care of those living with asthma; and
- Reduce the number of people who smoke or are around secondhand smoke.

The long-term goals of the program are to:

- Enable people with asthma to have better control of their disease and better quality of life;
- Expand and sustain comprehensive asthma control services across the state;
- Reduce disparities in asthma care and management and related health outcomes; and
- Reduce emergency department visits and hospitalizations due to uncontrolled asthma

This strategic plan will act as a guide to mobilize the TACP and its partners to help Texans control their asthma, reduce visits to the emergency department, decrease hospitalizations and improve their quality of life. The contents were informed by the Texas Asthma Control Collaborative, a multidisciplinary consortium of stakeholders from across the state, and is intended to be a dynamic, living document that can be updated as needed to adapt to changes in the best available evidence for asthma control interventions. The outlined strategies are complementary and mutually reinforcing. They are most effective with commitment, collaboration, and leadership from multiple sectors, including public health, health care, payers, academia, social services, professional associations, and nonprofit interest groups.

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<sup>1</sup> 2015 Texas Behavioral Risk Factor Surveillance System (BRFSS), Center for Health Statistics, Texas Department of State Health Services.

<sup>2</sup> 2017 Texas Behavioral Risk Factor Surveillance System (BRFSS), Center for Health Statistics, Texas Department of State Health Services.

<sup>3</sup> Centers for Disease Control and Prevention (2019, May 29). Asthma. *CDC Healthy Schools*. Retrieved from [www.cdc.gov/healthyschools/asthma/index.htm](http://www.cdc.gov/healthyschools/asthma/index.htm)

## Background

### What is the impact of asthma in Texas?

More than half a million children in Texas are currently living with asthma.<sup>4</sup> Uncontrolled asthma can take a toll on quality of life, potentially restricting participation in physical or extracurricular activities and negatively impacting academic performance due to higher rates of absenteeism. According to the Centers for Disease Control and Prevention (CDC), a child with asthma misses an average of 2.3 more school days than their counterparts without asthma, which adversely affects federal funding for school districts.

Additionally, there are significant medical costs associated with asthma care. Of the \$94 million Medicaid dollars that were spent on acute asthma care in Texas in 2019, \$78 million was expended on pediatric patients alone.<sup>5</sup> That is an average of \$6,266 for each child covered by Texas Medicaid who received acute care for asthma during the year.

The burden of asthma is not isolated to childhood. More than 1.5 million adults in Texas are currently living with asthma. Adults with asthma miss almost two days of work each year as a direct result of their condition, and often parents or caregivers miss work when dependents with asthma require care, placing financial and productivity strains on both employers and employees. While Medicaid expenditures for adults only accounted for a fraction of the total spent on acute asthma care in 2019, 12.3 percent of adult Texas Medicaid beneficiaries who were hospitalized for asthma care had at least one repeat inpatient hospital visit in the same year for the same diagnosis, compared to only 7.8 percent of pediatric patients.<sup>6</sup>

### Disparities in Asthma

Asthma prevalence is unevenly distributed throughout Texas. Asthma health disparities vary by racial and ethnic groups, socioeconomic status, and geography.

### Racial and Ethnic Groups

Black children in Texas have higher asthma prevalence compared to other racial and ethnic groups<sup>7</sup> and are more likely to visit the emergency department<sup>8</sup> or be admitted to the hospital due to asthma.<sup>9</sup>

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<sup>4</sup> 2013-2015 Texas Behavioral Risk Factor Surveillance System (BRFSS), Center for Health Statistics, Texas Department of State Health Services.

<sup>5</sup> Medicaid Reimbursement for Asthma, Fiscal Year 2019. Data Quality and Dissemination, Center for Analytics and Decision Support, Texas Health and Human Services Commission

<sup>6</sup> Ibid

<sup>7</sup> 2013-2015 Texas Behavioral Risk Factor Surveillance System (BRFSS), Center for Health Statistics, Texas Department of State Health Services.

<sup>8</sup> Texas Health Care Information Collection (THCIC), Emergency Department Hospital Discharge Public Use Data File, 2018  
Population Data Source: Center for Health Statistics, Texas Department of State Health Services

<sup>9</sup> THCIC, Inpatient Hospital Discharge Public Use Data File, 2018. Population Data Source: Center for Health Statistics, Texas Department of State Health Services.

Asthma mortality rates among blacks are significantly higher than other racial and ethnic groups.<sup>10</sup>

### **Socioeconomic Status**

Asthma is more prevalent in children of lower socioeconomic status. Substandard housing has been linked to greater asthma morbidity and mortality for low-income minority children living in urban areas and is associated with higher levels of asthma triggers in and around the home, including allergens, mold, pests, secondhand smoke, particulate matter, and car exhaust fumes.<sup>11</sup>

### **Geography**

Urban areas have more sources of air pollution than rural areas.<sup>12</sup> Ozone pollution is a known asthma trigger and can cause issues for people with asthma on high ozone days.<sup>13</sup> People with asthma can experience decreased lung function, increased respiratory symptoms, increased rescue medication usage, increased frequency of asthma attacks, and increase use of urgent or emergency care due to poor air quality.<sup>14</sup> According to the U.S. Environmental Protection Agency, three metropolitan areas in Texas do not meet federal standards for ozone pollution as of November 30, 2020: Dallas-Fort Worth, Houston-Galveston-Brazoria, and San Antonio.<sup>15</sup> These three areas make up approximately 35 percent of emergency department visits and hospital admissions related to asthma in Texas.<sup>16,17</sup>

## **Approach**

By August 31, 2024, the TACP plans to achieve the following outcomes:

- Enhanced utilization of surveillance and evaluation data for program improvement
- Expanded access, referral to, and delivery of coordinated community-based services in high burden areas
- Enhanced capacity to deliver or refer to asthma self-management education (AS-ME)
- Improved systems to facilitate guidelines-based medical management
- Enhanced linkages and coordination across public health and healthcare systems
- Increased number of people with asthma receiving appropriate medication assessments and essential medications/devices
- Increased number of people with well-controlled asthma and fewer asthma attacks
- Decreased asthma-related absenteeism at worksites and schools

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<sup>10</sup> Center for Health Statistics, Texas Department of State Health Services. Population Data Source: Texas Demography Center. Cause of Death: ICD-10 Code J45-J46

<sup>11</sup> Pacheco CM, Ciaccio CE, Nazir N, Daley CM, DiDonna A, Choi WS, ..., & Rosenwasser LJ (2014). Homes of low-income minority families with asthmatic children have increased condition issues. *Allergy and Asthma Proceedings*, 35, 467–474.

<sup>12</sup> Strosnider H, Kennedy C, Monti M, Yip F. Rural and Urban Differences in Air Quality, 2008–2012, and Community Drinking Water Quality, 2010–2015 — United States. *MMWR Surveill Summ* 2017;66(No. SS-13):1–10.

<sup>13</sup> Asthma and Allergy Foundation of America (2015) Air Pollution and Asthma. Retrieved from [www.aafa.org/air-pollution-smog-asthma/](http://www.aafa.org/air-pollution-smog-asthma/)

<sup>14</sup> United States Environmental Protection Agency. (2020). Health Effects of Ozone in Patients with Asthma and Other Chronic Respiratory Disease. Retrieved from [www.epa.gov/ozone-pollution-and-your-patients-health/health-effects-ozone-patients-asthma-and-other-chronic](http://www.epa.gov/ozone-pollution-and-your-patients-health/health-effects-ozone-patients-asthma-and-other-chronic)

<sup>15</sup> United States Environmental Protection Agency. (2020). 8-Hour Ozone (2015) Designated Area/State Information. Retrieved from [www3.epa.gov/airquality/greenbook/jbtc.html](http://www3.epa.gov/airquality/greenbook/jbtc.html)

<sup>16</sup> THCIC, Emergency Department Hospital Discharge Public Use Data File, 2018

<sup>17</sup> THCIC, Inpatient Hospital Discharge Public Use Data File, 2018.

To accomplish this, the Texas Asthma Control Program (TACP) is contracting with three local health departments (LHDs) – Dallas County Health and Human Services, Harris County Public Health and Environmental Services, and San Antonio Metropolitan Health District – to implement targeted, evidence-based childhood asthma control strategies within their respective service areas. These LHDs will address health disparities by tailoring services for children with asthma who live in poverty and are not connected to primary and/or specialty care as well as mobilizing their communities around policy, systems, and environmental changes to support asthma-friendly spaces. The TACP will also serve as the convener of the Texas Asthma Control Collaborative and will bring together partners from state, regional, tribal, and local agencies, health systems and payers, academia, and other sectors to enhance asthma control infrastructure and reach, particularly in rural areas.

This strategic plan includes six priority areas based on the CDC’s EXHALE technical package. The EXHALE technical package is a group of mutually reinforcing strategies based on best available evidence that can improve asthma control and reduce healthcare costs.<sup>18</sup> Table 1 summarizes the strategies of the EXHALE framework, as well as the TACP’s planned approaches to advance these strategies.

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<sup>18</sup>Hsu J, Sircar K, Herman E, Garbe P. (2018). EXHALE: A Technical Package to Control Asthma. Atlanta, GA: National Center for Environmental Health, Centers for Disease Control and Prevention.

**Table 1. EXHALE Framework**

Component		Approach
<b>E</b>	Education on asthma self-management	Expand access to and delivery of AS-ME <ul style="list-style-type: none"> <li>• Support and expand existing programs</li> <li>• Increase AS-ME programs and instructors</li> <li>• Provide training and technical assistance</li> </ul>
<b>X</b>	X-tinguishing smoking and secondhand smoke	Reduce tobacco smoking and exposure to secondhand smoke <ul style="list-style-type: none"> <li>• Increase referrals to Texas Tobacco Quitline</li> <li>• Provide training to decrease tobacco use</li> <li>• Education on tobacco and vaping as an asthma trigger</li> </ul>
<b>H</b>	Home visits for trigger reduction and AS-ME	Expand access to and delivery of home visits for asthma trigger reduction and AS-ME <ul style="list-style-type: none"> <li>• Conduct training sessions for community health workers</li> <li>• Work with health plans to cover/offer asthma home visits</li> <li>• Expand asthma home visiting programs</li> </ul>
<b>A</b>	Achievement of guidelines-based medical management	Strengthen systems to support guidelines-based medical care, <ul style="list-style-type: none"> <li>• Improve workflows for asthma management</li> <li>• Disseminate resources on best practices</li> <li>• Connect health systems and emergency departments</li> <li>• Create a statewide Asthma Control Champion recognition program</li> </ul> Improving access and adherence to asthma medications and devices <ul style="list-style-type: none"> <li>• Conduct/coordinate educational events</li> </ul>
<b>L</b>	Linkages and coordination of care across settings	Promoting coordinated care for people with asthma <ul style="list-style-type: none"> <li>• Explore use of telehealth in schools</li> <li>• Explore community health paramedicine</li> <li>• Assess mobile health technology</li> <li>• Promote pharmacy-based asthma control activities</li> <li>• Gather information on resources for asthma</li> </ul>
<b>E</b>	Environmental policies or best practices to reduce asthma triggers from indoor, outdoor, and occupational sources	Facilitate smoke-free policies <ul style="list-style-type: none"> <li>• Promote tobacco-free ordinances and policies</li> <li>• Connect people to cessation support</li> </ul> Facilitate clean diesel school bus fleets <ul style="list-style-type: none"> <li>• Promote clean diesel bus fleets and anti-idling policies</li> <li>• Provide anti-idling education</li> </ul> Eliminate/reduce exposure to asthma triggers in the workplace

## Measuring Impact

The Chronic Disease Epidemiology Branch of the Texas Department of State Health Services will conduct regular surveillance of available data to monitor the collective impact of the Texas Asthma Control Program (TACP) and its partners on the state of asthma control in Texas. Supplemental reports will be produced annually through August 31, 2024, for the statewide metrics in Table 2. The TACP will also evaluate its own direct impact on asthma control using the performance measures outlined in Table 3. Progress will be reported annually to the Centers for Disease Control and Prevention and the Texas Asthma Control Collaborative membership.

**Table 2: Statewide Metrics**

Description	Source	Point-in-Time Measure
<b>Years of potential life lost (YPLL) due to asthma<sup>^</sup></b>	Vital Statistics	Pediatric: 818.5 person-years (2017) Adult: 2,287.0 person-years (2017)
<b>Emergency department visits due to asthma</b>	Texas Health Care Information Collection	Pediatric: 68.3/10,000 (2019) Adult: 30.3/10,000 (2019)
<b>Hospitalizations due to asthma</b>	Texas Health Care Information Collection	Pediatric: 6.6 /10,000 (2019) Adult: 3.2/10,000 (2019)
<b>Percent of clients with repeat visits</b>	Texas Medicaid	Pediatric: 51.0% (2019) Adult: 52.3% (2019)
<b>Number of active certified asthma educators</b>	<a href="#">National Asthma Educator Certification Board</a>	175 (January 27, 2021)
<b>Current cigarette use among people with asthma</b>	Youth Risk Behavior Surveillance System; Behavioral Risk Factor Surveillance System	Pediatric:4.3% (2019) Adult: 18.5% (2019)
<b>Percent of lives covered by smoke-free ordinances</b>	<a href="#">Texas Smoke-Free Ordinance Database</a>	44% (2020)

<sup>^</sup>YPLL is a measure of premature mortality. Premature death is defined as death occurring before the age of 65. YPLL is the sum of years of life lost.<sup>19</sup>

<sup>19</sup>Texas Department of State Health Services. (2010). Years of Potential Life Lost. Austin, Texas: Center for Health Statistics. Retrieved from [www.dshs.texas.gov/chs/vstat/vs05/ypll.shtm](http://www.dshs.texas.gov/chs/vstat/vs05/ypll.shtm)

**Table 3: Performance Measures**

Priority Area	Performance Measure	Source
<b>1: Education on asthma self-management</b>	<ul style="list-style-type: none"> <li>• Number of children and families who complete asthma self-management education classes (AS-ME)</li> <li>• Number of people who complete AS-ME and report their asthma is well controlled</li> <li>• Number of trained AS-ME instructors in Texas</li> </ul>	Contractor performance reporting
<b>2: X-tinguishing smoking and secondhand smoke</b>	<ul style="list-style-type: none"> <li>• Number of referrals to tobacco cessation services</li> <li>• Knowledge of the effects of tobacco and smoke as an asthma trigger</li> </ul>	Contractor performance reporting; event attendance; Texas Tobacco Quitline reports
<b>3: Home visits for trigger reduction and AS-ME</b>	<ul style="list-style-type: none"> <li>• Number of people trained to conduct home visits</li> <li>• Number of payers with asthma home visit benefits</li> <li>• Number of asthma home visits</li> </ul>	Contractor performance reporting; health plan surveys
<b>4: Achievement of guidelines-based medical management</b>	<ul style="list-style-type: none"> <li>• Knowledge of updated national guidelines for asthma management</li> <li>• Number of clinicians, health systems, and payers that use electronic medical record or claims data to monitor population health</li> </ul>	Contractor performance reporting; <a href="#">Texas Health Steps</a> asthma module completions; health plan surveys
<b>5: Linkages and coordination of care across settings</b>	<ul style="list-style-type: none"> <li>• Number of community-clinical partnerships to support asthma self-management</li> <li>• Number of bidirectional communication channels between clinicians and schools to ensure continuity of care</li> </ul>	Contractor performance reporting
<b>6: Environmental policies or best practices to reduce asthma triggers from indoor, outdoor, and occupational sources</b>	<ul style="list-style-type: none"> <li>• Number of municipalities with comprehensive tobacco-free ordinances inclusive of vaping restrictions</li> <li>• Number of college and university campuses with comprehensive tobacco-free policies inclusive of vaping restrictions</li> <li>• Number of commercial fleets with anti-idling policies</li> <li>• Awareness of environmental asthma triggers from indoor, outdoor, and occupational sources</li> </ul>	<a href="#">Texas Smoke-Free Ordinance Database</a> ; <a href="#">Texas College Tobacco Policy Database</a> ; event attendance; contractor performance reporting

# Priority Area 1: Education on Asthma Self-Management

## Rationale

Asthma self-management education (AS-ME) provides people living with asthma and their caregivers with basic facts about asthma, the roles of medications and how to use them correctly, what to do when asthma symptoms worsen, and how to reduce exposures to asthma triggers. AS-ME is versatile and can be facilitated individually or in groups in multiple settings, including clinics, schools, pharmacies, and community-based organizations.

AS-ME has been shown to improve asthma control and reduce healthcare costs. In a 2016 study of Texas Medicaid beneficiaries with asthma or chronic obstructive pulmonary disorder (COPD), educating patients on the proper use of asthma medications resulted in cost-savings of \$589-\$765 per person and a 10 percent reduction in emergency department visits.<sup>20</sup> One-on-one asthma education programs that include environmental assessments have the potential to save \$26,720 per 100 patients in healthcare costs.<sup>21</sup>

## Anticipated Outcomes

- Increased number of children and families who complete AS-ME classes
- Increased number of people who complete AS-ME and report their asthma is well controlled
- Increased number of trained AS-ME instructors in Texas

## Strategies

Successful implementation of the following strategies will require the cooperation of several sectors and disciplines, including but not limited to state and local public health agencies, Community Health Worker (CHWs) and CHW training programs, healthcare providers, managed care organizations (MCOs) and other payers, employers, academia, schools, community-based organizations, and nonprofit interest groups. Activities specific to the Texas Asthma Control Program (TACP) and its contractors are noted with an asterisk (\*).

### Strategy 1.1: Facilitate healthcare provider referrals to AS-ME

- a. Collaborate with Texas Medicaid, MCOs, and other health plans to identify clients at highest risk, reduce access barriers, and increase the delivery and quality of AS-ME.\*
- b. Provide education to primary care providers on the need for AS-ME through webinars, trainings, and promotional materials.
- c. Increase awareness of local resources for AS-ME among healthcare providers.

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<sup>20</sup>Barner, J. C., Roberson, K., Richards, K. M., Makhinova, T., & Nduaguba, S. O. (2016, October). *Clinical and economic outcomes of the Texas Medicaid medication therapy management (MTM) pilot: asthma and COPD*. Center for Pharmacoeconomic Studies at the University of Texas at Austin. <https://hhs.texas.gov/sites/default/files/documents/laws-regulations/reports-presentations/2016/sb1-medicare-mtm-pilot-oct-2016.pdf>

<sup>21</sup>Hsu J, Sircar K, Herman E, Garbe P. (2018). EXHALE: A Technical Package to Control Asthma.

- d. Conduct outreach to existing AS-ME programs and providers to assess capacity, training needs, and marketing or communication needs.
- e. Share trainings and other resources through the Texas Asthma Control Collaborative network of partners, the quarterly Asthma Resource Digest, and other Department of State Health Services (DSHS) email newsletters.\*

**Strategy 1.2: Prepare allied health professionals to become Asthma Educators**

- a. Collaborate with the DSHS CHW Training and Certification Program to identify CHWs who may be eligible to sit for the National Asthma Educator Certification Board (NAECB) exam based on hours of experience.\*
- b. Coordinate opportunities for preparation for the NAECB exam for various disciplines, including CHWs, medical assistants, health educators, etc.
- c. Promote training opportunities to asthma educators and other stakeholders, such as the American Lung Association’s annual Asthma Educator Institute.

**Strategy 1.3: Build and promote the business case for AS-ME**

- a. Establish a payer workgroup within the Texas Asthma Control Collaborative to inform TACP activities related to billing and reimbursement for AS-ME.\*
- b. Coordinate with Texas Medicaid to increase the number of MCOs that connect clients to AS-ME as a value-based compliance strategy.\*
- c. Coordinate with the DSHS Texas Healthy Communities Program and other community health or worksite wellness programs to increase the number of employers who elect AS-ME coverage as part of their group benefits package for employees and dependents.\*

## Priority Area 2: X-tinguishing Smoking and Secondhand Smoke

### Rationale

Tobacco smoke is a known asthma trigger, both through direct use of tobacco products and indirect, secondhand exposure.<sup>22</sup> Individuals with asthma who smoke are at greater risk of experiencing reduced lung function,<sup>23</sup> increased frequency and severity of asthma attacks, and development of resistance to corticosteroids,<sup>24</sup> making it more difficult to manage symptoms. In 2018, approximately 24 percent of Texas adults living with asthma also smoked compared to 13.5 percent of people without asthma.<sup>25</sup>

Maternal smoking and secondhand smoke exposure before birth are risk factors for childhood asthma.<sup>26</sup> Women insured through Texas Medicaid are more than four times as likely to allow smoking in the home during pregnancy or postpartum and five times as likely to smoke during the third trimester than those with private insurance.<sup>27</sup> Black women in Texas are nearly twice as likely as white women and more than four times as likely as Hispanic women to allow smoking in their homes during pregnancy or in the months following delivery.<sup>28</sup> Children with asthma who are exposed to secondhand smoke are twice as likely to be hospitalized for asthma than those who are not exposed.<sup>29</sup> In 2018, 28 percent of Texas middle school students and 37 percent of high school students reported being in the same room or riding in a car with someone smoking cigarettes in the past seven days.<sup>30</sup>

Evidence-based tobacco prevention and cessation programs can decrease smoking rates and subsequently decrease risk of exposure to secondhand smoke. Tobacco cessation can improve asthma control and lung function while decreasing reliance on rescue medications or visits to the emergency department or urgent care center. Lung function can improve in as little as 24 hours after quitting smoking.<sup>31</sup> Efforts should be comprehensive and promote tobacco prevention and cessation at both individual (i.e. direct education) and environmental levels (i.e. policy change). This section will focus on individual health behavior. Additional information on environmental change can be found under Priority Area 6: Environmental Policies or Best Practices to Reduce Asthma Triggers from Indoor, Outdoor, and Occupational Sources.

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<sup>22</sup> National Heart, Blood, and Lung Institute. (2020). 2020 Focused Updates to the Asthma Management Guidelines: A Report from the National Asthma Education and Prevention Program Coordinating Committee Expert Panel Working Group. Retrieved from <https://www.nhlbi.nih.gov/health-topics/all-publications-and-resources/2020-focused-updates-asthma-management-guidelines>

<sup>23</sup> Jaakkola, J. et al., (2019). Smoking and lung function among adults with newly onset asthma. *BMJ Open Respiratory Research*. 6(1), e000377.

<sup>24</sup> Thomson, N., Chaudhuri, R., Livingston, E. (2004). Asthma and cigarette smoking. *European Respiratory Journal*, 24(5) 822-833.

<sup>25</sup> 2018 Texas Behavioral Risk Factor Surveillance System (BRFSS), Center for Health Statistics, Texas Department of State Health Services.

<sup>26</sup> Hsu J, Sircar K, Herman E, Garbe P. (2018). EXHALE: A Technical Package to Control Asthma.

<sup>27</sup> Texas Department of State Health Services. (2017). Pregnancy Risk Assessment Monitoring System (PRAMS) Survey: 2017 Data Book: Summary Tables. [https://www.dshs.texas.gov/mch/pdf/2017\\_PRAMS\\_DB\\_summary\\_tables-100220.pdf](https://www.dshs.texas.gov/mch/pdf/2017_PRAMS_DB_summary_tables-100220.pdf)

<sup>28</sup> Ibid

<sup>29</sup> Frederico MJ et al. The Impact of Social Determinants Health on Children with Asthma. *J Allergy Clin Immunol Pract* 2020; 8(6) 1808-1814.

<sup>30</sup> Texas Department of State Health Services. (2018). Texas Youth Tobacco Survey 2018. <https://www.dshs.texas.gov/tobacco/pdf/YTS-2018-State-Report.pdf>

<sup>31</sup> Fennerty AG, Banks J, Ebden P, Bevan C. The effect of cigarette withdrawal on asthmatics who smoke. *Eur J Respir Dis*. 1987;71(5):395-399.

## **Anticipated Outcomes**

- Increased number of referrals to tobacco cessation services
- Increased knowledge of the effects of tobacco and smoke as an asthma trigger

## **Strategies**

Successful implementation of the following strategies will require the cooperation of several sectors and disciplines, including but not limited to state and local public health agencies, academia, school health staff, community health workers (CHWs) and CHW training programs, healthcare systems and providers, and community-based and nonprofit organizations. Activities specific to the TACP and its contractors are noted with an asterisk (\*).

### **Strategy 2.1: Develop a communication plan highlighting the impact of smoke and aerosols on asthma**

- a. Create and distribute educational materials for multiple audiences on different types of smoke that can trigger asthma. These include smoke from traditional cigarettes, cannabis, wood fires, and aerosols from vaping.\*
- b. Monitor peer-reviewed literature and gather evidence of associations between vaping byproducts and asthma episodes.

### **Strategy 2.2: Connect patients or clients to evidence-based tobacco cessation support**

- a. Include smoking cessation counseling and/or referral to the Texas Tobacco Quitline during home visits for trigger reduction.
- b. Adapt clinical workflows and decision support tools to facilitate referrals of parents or caregivers who smoke or use other tobacco products to cessation support in pediatric, obstetric, and primary care settings.
- c. Coordinate and promote trainings for CHWs and other allied health professionals on delivering basic tobacco cessation counseling and connecting clients to the Texas Tobacco Quitline.\*
- d. Coordinate trainings for school nurses and counselors to encourage referrals of pediatric patients, ages 13-17, and school staff to the Texas Tobacco Quitline to support smoking cessation.\*

## Priority Area 3: Home Visits for Trigger Reduction and Asthma Self-Management Education

### Rationale

People spend 90 percent of their time indoors, much of which is spent in the home.<sup>32</sup> Home visits provide insight into a patient’s barriers to asthma control. They offer a window into the conditions that may be impacting the patient’s engagement or adherence to medication therapy, such as social stressors, housing conditions, or work or family obligations that may interfere with asthma management. These encounters allow trained professionals to identify asthma triggers in the home and provide personalized education for patients and their families on methods to decrease exposure. A variety of providers can effectively conduct home visits for asthma, including nurses, respiratory therapists, certified asthma educators, and trained community health workers (CHWs). Home visits have been shown to improve asthma control and medication adherence, reduce emergency department visits and hospitalizations, and reduce absences from work and school.<sup>33</sup>

### Anticipated Outcomes

- Increased number of people trained to conduct home visits
- Increased payer coverage of asthma home visits
- Increased number of asthma home visits

### Strategies

Successful implementation of the following strategies will require the cooperation of several sectors and disciplines, including but not limited to state and local public health agencies, clinicians, CHWs and CHW training programs, and payers. Activities specific to the Texas Asthma Control Program (TACP) and its contractors are noted with an asterisk (\*).

#### Strategy 3.1: Increase the number of healthcare team members trained to conduct home visits

- a. Coordinate and promote continuing education opportunities for CHWs, social workers, and other non-physician healthcare team members on use of the U.S. Environmental Protection Agency home environment checklist and how to conduct an asthma home visit.\*
- b. Encourage managed care organizations (MCOs) and other payers to use CHWs for home visits and in-home asthma self-management education (AS-ME) as a value-added service.

#### Strategy 3.2: Integrate referrals to home visits into clinical workflows for asthma care

- a. Collaborate with professional networks, such as the Texas Medical Association, Texas Pediatric Society, or Texas Association of Family Physicians, to develop and/or promote continuing education opportunities on the value of home visits as part of a comprehensive asthma care plan.\*

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<sup>32</sup> Hsu J, Sircar K, Herman E, Garbe P. (2018). EXHALE: A Technical Package to Control Asthma.

<sup>33</sup> Ibid

- b. Collect and share best practices and examples of clinical workflows and decision support tools, such as treatment algorithms, pocket guides, or standing orders, that have been used to successfully integrate referrals to home visiting programs into standard operating procedures.\*

**Strategy 3.3: Address sustainability of home visits for asthma trigger reduction and AS-ME.**

- a. Develop a how-to guide on how to conduct virtual home visits as needed to ensure program availability during pandemic response or due to patient preference.
- b. Develop culturally appropriate outreach strategies to increase scheduling and completion of a home visiting program. This could include using multi-lingual staff or translation services or offering flexible scheduling to meet the needs of patients and their families.
- c. Develop a worksite outreach toolkit for asthma stakeholders to use when speaking with employers to encourage coverage of home visits and AS-ME as part of their group benefits package for employees and dependents.\*
- d. Encourage MCOs and other payers to reimburse home visits as a value-added service, particularly for clients with severe asthma.
- e. Establish a payer workgroup within the Texas Asthma Control Collaborative to inform TACP activities related to billing and reimbursement for home visits.\*

## Priority Area 4: Achievement of Guidelines-Based Medical Management

### Rationale

Interventions that provide clinical support or feedback to healthcare providers based on national guidelines, including the 2020 update of “Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma” (EPR-3), have been shown to reduce emergency department visits, hospitalizations, and school absenteeism and improve adherence to controller medication as prescribed. Additionally, systems using claims data can reduce emergency department visits and hospitalizations by approximately 55 percent and provide a return on investment of \$2 to \$4 for every \$1 spent.<sup>34</sup>

### Anticipated Outcomes

- Increased knowledge of updated national guidelines for asthma management
- Increased number of clinicians, health systems, and payers that use electronic medical record or claims data to monitor population health

### Strategies

Successful implementation of the following strategies will require the cooperation of several sectors and disciplines, including but not limited to state and local public health agencies, clinicians, pharmacists, community health workers (CHWs) and CHW training programs, and payers. Activities specific to the Texas Asthma Control Program (TACP) and its contractors are noted with an asterisk (\*).

#### Strategy 4.1: Increase knowledge of 2020 updates to EPR-3 guidelines

- a. Coordinate with clinical and pharmacy partners in the Texas Asthma Control Collaborative to develop and distribute a summary of changes made to EPR-3 by the National Asthma Education and Prevention Program Coordinating Committee that is meaningful and relevant to healthcare team members in Texas.\*
- b. Collaborate with professional associations, such as the Texas Medical Association, Texas Pediatric Society, Texas Association of Family Physicians, and Texas Pharmacy Association to develop and/or promote continuing education opportunities.

#### Strategy 4.2: Strengthen systems to support guidelines-based care

- a. Use health information technology, electronic medical records, and claims data to identify, treat, and manage patients who could benefit from more intensive asthma control interventions.
- b. Encourage clinicians and health systems to adopt internal audit processes using electronic health record data to monitor population health metrics, including asthma control, on a regular basis.

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<sup>34</sup> Hsu J, Sircar K, Herman E, Garbe P. (2018). EXHALE: A Technical Package to Control Asthma.

- c. Collaborate with Texas Medicaid, managed care organizations (MCOs), and other payers to provide regular feedback to network providers on asthma control rates of their patient population.
- d. Coordinate training opportunities on motivational interviewing and shared decision-making for healthcare providers and allied health professionals to enable patients to take ownership of their self-management goals and work together to improve adherence to their asthma action plan.

## Priority Area 5: Linkages and Coordination of Care Across Settings

### Rationale

While guidelines-based medical management of asthma is critical, asthma control also requires patients to be actively engaged and able to self-monitor their symptoms, understand and use their asthma action plan, reduce exposure to environmental asthma triggers, and not only adhere to their medication regimen but also administer it properly. The physician has limited control of these factors once the patient leaves the office – yet reimbursement from value-based payment programs (versus fee-for-service) depends on the patient’s outcome. That is why referrals and patient navigation to community resources for support, such as asthma self-management education (AS-ME), tobacco cessation, asthma home visits, home weatherization, or pest management are crucial to successful asthma control.<sup>14</sup> For example, bidirectional communication between schools and primary care providers have been shown to improve asthma control and reduce emergency department and urgent care visits and school absenteeism.<sup>35</sup>

### Anticipated Outcomes

- Increased number of community-clinical partnerships to support asthma self-management
- Increased number of bidirectional communication channels between clinicians and schools to ensure continuity of care

### Strategies

Successful implementation of the following strategies will require the cooperation of several sectors and disciplines, including but not limited to state and local public health agencies, clinicians, school health staff, pharmacists, community-based and nonprofit organizations, and payers. Activities specific to the TACP and its contractors are noted with an asterisk (\*).

#### **Strategy 5.1: Establish bidirectional communication pathways between healthcare teams and community partners**

- a. Develop secure processes to share information between school health staff and healthcare providers to facilitate continuity of care between settings, such as sharing asthma action plans or observed asthma episodes.
- b. Establish secure connections with community-based organizations or social services to refer patients to non-medical services that address social determinants of health, such as help with transportation, pest management, or home weatherization.
- c. Conduct an annual assessment of available asthma services in Texas and disseminate a call-to-action for community partners to update their program offerings in Texas 2-1-1.

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<sup>35</sup> Hsu J, Sircar K, Herman E, Garbe P. (2018). EXHALE: A Technical Package to Control Asthma.

**Strategy 5.2: Connect people living with asthma to guidelines-based care**

- a. Collaborate with emergency departments to establish protocol to navigate patients to primary care as needed after an encounter for uncontrolled asthma.\*
- b. Establish telehealth links between school nurses or school-based health center staff and specialists, such as allergists, immunologists, pulmonologists, etc. for e-consults.
- c. Explore the use of in-home telehealth follow-up visits by primary care physicians or specialists by using a community health worker presenter, potentially in conjunction with home visits for asthma trigger reduction and/or AS-ME.

## Priority Area 6: Environmental Policies or Best Practices to Reduce Asthma Triggers from Indoor, Outdoor, and Occupational Sources

### Rationale

Efforts to change individual health behavior will have limited success without supportive policies, systems, and environments (PSE).<sup>36</sup> Interventions that target PSE can have broad, sweeping impacts that benefit not only the target population, but the community at large. For example, in addition to supporting smoking cessation, smoke-free policies have been shown not only to improve asthma control, but also decrease hospitalizations for heart attacks and reduce health care costs by protecting everyone from secondhand smoke exposure.<sup>37</sup> PSE interventions can vary widely in breadth and reach – from the actions of a single worksite switching to asthma-friendly cleaning supplies to a municipality adopting an anti-idling ordinance – all of which target potential sources of asthma triggers.

Home weatherization assistance programs are another best practice for reducing indoor asthma triggers. The cost of just *one* asthma hospitalization could cover the cost of weatherizing an entire house.<sup>38</sup> State Medicaid programs have observed an average cost savings of \$785 per person per year in asthma-related costs among clients participating in weatherization assistance programs.<sup>39</sup>

### Anticipated Outcomes

- Increased number of lives covered by smoke-free ordinances
- Increased number of municipalities with comprehensive tobacco-free ordinances inclusive of vaping restrictions
- Increased number of college and university campuses with comprehensive tobacco-free policies inclusive of vaping restrictions
- Increased number of commercial fleets with anti-idling policies
- Increased awareness of environmental asthma triggers from indoor, outdoor, and occupational sources

### Strategies

Successful implementation of the following strategies will require the cooperation of several sectors and disciplines, including but not limited to state and local public health agencies, local government, school and worksite transportation departments, payers, and community-based and nonprofit

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<sup>36</sup> Honeycutt S, Leeman J, McCarthy WJ, Bastani R, Carter-Edwards L, Clark H, et al. Evaluating Policy, Systems, and Environmental Change Interventions: Lessons Learned from CDC's Prevention Research Centers. *Prev Chronic Dis* 2015;12:150281.

<sup>37</sup> Hsu J, Sircar K, Herman E, Garbe P. (2018). EXHALE: A Technical Package to Control Asthma.

<sup>38</sup> Barrett ML, Weir LM, Washington R. Trends in Pediatric and Adult Hospital Stays for Asthma, 2000– 2010. HCUP Statistical Brief #169. January 2014. Agency for Healthcare Research and Quality, Rockville, MD. 2007; <https://www.hcup-us.ahrq.gov/reports/statbriefs/sb169-Asthma-Trends-Hospital-Stays.pdf>

<sup>39</sup> Rose E, Hawkins B, Tonn B, Paton D, Shah L. Exploring Potential Impacts of Weatherization and Healthy Homes Interventions on Asthma-Related Medicaid Claims and Costs in a Small Cohort in Washington State (ORNL/TM-2015-213). Oak Ridge, TN: Oak Ridge National Laboratory, Environmental Sciences Division 2015: [http://weatherization.ornl.gov/RecoveryActpdfs/ORNL\\_TM-2015\\_213.pdf](http://weatherization.ornl.gov/RecoveryActpdfs/ORNL_TM-2015_213.pdf)

organizations. Activities specific to the Texas Asthma Control Program (TACP) are noted with an asterisk (\*).

**Strategy 6.1: Develop a communication plan to increase awareness of environmental asthma triggers**

- a. Develop educational materials on environmental asthma triggers in indoor, outdoor, and occupational settings for multiple audiences.
- b. Distribute materials through the Texas Asthma Control Collaborative's network of partners, the quarterly Asthma Resource Digest, and other newsletters.\*
- c. Collect and share examples of successful PSE interventions to improve air quality.

**Strategy 6.2: Engage decision makers around asthma-friendly policies or ordinances**

- a. Work with local governments to strengthen protections of indoor and outdoor air quality:
  - i. Adopt or enhance anti-idling ordinances.
  - ii. Adopt, enhance, and/or expand tobacco-free ordinances to include all indoor spaces, including bars and restaurants, and apply restrictions to electronic nicotine delivery systems (ENDS).
  - iii. Review and bring housing codes up to date with the National Healthy Housing Standard developed by the National Center for Healthy Housing and the American Public Health Association.<sup>40</sup>
- b. Work with school districts and worksites to enact policies to improve indoor and outdoor air quality, such as discouraging the use of fragrances in the classrooms or workspaces, adopting anti-idling policies for school buses or commercial fleets, and seeking funding to retrofit school buses with clean diesel engines.
- c. Work with private multi-unit housing complexes to improve indoor air quality by adopting, implementing, and enforcing tobacco-free policies inclusive of ENDS restrictions and connecting residents to cessation support.
- d. Collaborate with tobacco control stakeholders to increase the number of college and university campuses that adopt, implement, and enforce tobacco-free policies inclusive of ENDS restrictions and connect students and staff to cessation support.

**Strategy 6.3: Remove barriers to home weatherization**

- a. Coordinate with managed care organizations (MCOs) and other payers to cover home weatherization as a value-added service and potential compliance strategy for value-based payment programs.
- b. Establish bidirectional communication between healthcare providers and social services to facilitate referrals.

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<sup>40</sup> National Center for Healthy Housing & American Public Health Association. (2014, May 16). *National healthy housing standard*. Columbia, MD: National Center for Healthy Housing. Available at <https://nchh.org/resource-library/national-healthy-housing-standard.pdf>

## Conclusion

No single entity can improve the health and well-being of all Texans alone. Asthma stakeholders are urged to use the “Strategic Plan for Asthma Control in Texas, 2021-2024,” (Plan) to determine their role in a unified, coordinated effort alongside the Texas Department of State Health Services to reduce emergency department visits and hospitalizations related to asthma by 2024. The Plan is intended to be used as a tool to mobilize communities and provide strategic direction to decision makers to make Texas a healthier place to breathe.

## Acknowledgements

Staff from the Health Promotion and Chronic Disease Prevention Section at the Texas Department of State Health Services played a key role in coordinating meetings, writing, and editing drafts of the *Strategic Plan for Asthma Control in Texas, 2021-2024*.

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\* Participation does not constitute endorsement of the plan by the individual or their organization.

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